

**WHAT IS CLAIMED IS:**

1. A method in a communication system comprising a access  
network with Radio Network controllers (RNC) and radio  
base stations (RBS or Node B) consisting of main units  
(MU) which performs base band signal processing and  
one or more radio remote units (RRUs) which converts  
between baseband and radio frequencies and transmits  
and receives signals over one or more antennas,  
covering cells, and one or several User equipment (UE  
or Phones) moving closer and closer to another cell,  
which said network is made aware of and then it will  
initiate a handover process, during which the call  
will be transferred from one cell to another cell  
within said radio base station (RBS or Node B) or to a  
cell in another Radio base station (RBS or Node B) in  
said communication network , c h a r a c t e r i z e  
d in that said handover process interact with a memory  
containing a list (softer handover group) of said  
radio remote units (RRUs) capable of doing softer  
handover with each other using the same Rake receiver.
2. A method according to patent claim 1, c h a r a c t e  
r i z e d in that said handover process is performed  
according to a selection from said list and said  
handover is done in line with the following:
  - If the new cell is within the said list (Softer  
handover group) as another cell used by the user  
equipment (UE or phone) a Softer HO is initiated to  
the RBS as normal.
  - If the new cell is not within the said list (softer  
handover group) as another cell used by the user

equipment (UE or phone) a Soft handover is initiated in the RNC or RBS.

3. A method according to patent claim 1, c h a r a c t e  
r i z e d in that said soft handover in the Radio base  
station (RBS) is a second stage maximum ratio  
combining or a selection combining with separate Rake  
receivers.
4. A method according to patent claim 2, c h a r a c t e  
r i z e d in that said selection among the two  
situations can be done with support from Radio Network  
controller or locally in said Radio base station  
(RBS).
5. A method according to patent claim 1, c h a r a c t e  
r i z e d in that said list (softer handover group)  
are made from a user equipment (UE) measured delay.
6. A method according to patent claim 5, c h a r a c t e  
r i z e d in that a reception time difference are used  
by Radio network controller (RNC) or Radio base  
station to calculate the relative propagation delay  
between the new antenna and the user equipment  
compared to the other active cells.
7. A method according to patent claim 5, c h a r a c t e  
r i z e d in that said Radio network controller (RNC)  
can based on this measurement include the new cell in  
said list (Softer handover group) or if said Radio  
network controller (RNC) not is impacted the  
measurement is forwarded to the Radio base station  
(RBS) and the RBS makes this decision.

8. A method according to patent claim 1, c h a r a c t e  
r i z e d in that artificial delay are stored within  
said Radio base station (RBS) to accomplish that the  
two signals from said two antennas are received within  
the RAKE window so that softer handover can be made.
9. A method according to patent claim 8, c h a r a c t e  
r i z e d in that a delay equalisation function makes  
the digital delay between the receiver/antenna and the  
RAKE receiver the same for all receivers/antennas.
10. A method according to patent claim 1 or 8, c h a r a c  
t e r i z e d in that the delay is optimised to  
maximize the number of successful softer handovers.
11. A method according to patent claim 10, characterized  
in  
that the delay are determined by evaluating the UE  
measured delay of a history of successful hand over  
between the related RRUs.